AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1 (Currently Amended): A method of determining at least one parameter of a fluid stream for subterranean treatment operations, comprising the steps of:

measuring the volumetric flow rate of the fluid stream;

measuring the momentum rate of the fluid stream; and

calculating the at least one parameter using the volumetric flow rate and the momentum rate of the fluid stream;

wherein:

the fluid stream does not comprise a gas phase; and

the fluid stream comprises phases selected from the group consisting of:

at least one liquid phase; and

a solid phase and at least one liquid phase.

Claim 2 (Original): The method of claim 1 wherein the fluid stream has a mass flow rate and a density, and the at least one parameter is selected from the group consisting of the mass flow rate of the fluid stream and the density of the fluid stream.

Claim 3 (Original): The method of claim 2 further comprising the step of transmitting the momentum rate of the fluid stream to a data processing device.

Claim 4 (Original): The method of claim 3 further comprising the step of transmitting the volumetric flow rate of the fluid stream to a data processing device.

Claim 5 (Original): The method of claim 4 wherein:

the at least one parameter is the mass flow rate of the fluid stream;

the density of the fluid stream is known; and

the step of calculating the at least one parameter further comprises the step of using the data processing device to determine the mass flow rate of the fluid stream by multiplying the volumetric flow rate of the fluid stream by the density of the fluid stream.

Claim 6 (Original): The method of claim 4 wherein:

the at least one parameter is the density of the fluid stream; and

the step of calculating the at least one parameter further comprises the step of using the data processing device to determine the density of the fluid stream by multiplying the momentum rate of the fluid stream by a numerical constant, and then dividing the product by the square of the volumetric flow rate of the fluid stream.

Claim 7 (Original): The method of claim 4 wherein the step of calculating the at least one parameter comprises the steps of:

using the data processing device to determine the density of the fluid stream by multiplying the momentum rate of the fluid stream by a numerical constant, and then dividing the product by the square of the volumetric flow rate of the fluid stream; and

using the data processing device to determine the mass flow rate of the fluid stream by multiplying the volumetric flow rate of the fluid stream by the density of the fluid stream.

Claims 8-15 (Deleted).

Claim 16 (Original): The method of claim 1 wherein the step of measuring the volumetric flow rate of the fluid stream comprises the step of flowing a portion of the fluid stream through a volumetric flow device.

Claim 17 (Original): The method of claim 1 wherein the step of measuring the volumetric flow rate of the fluid stream comprises the step of flowing the entirety of the fluid stream through a volumetric flow device.

Claim 18 (Original): The method of claim 1 wherein the step of measuring the momentum rate of the fluid stream comprises the step of flowing a portion of the fluid stream through a momentum device.

Claim 19 (Original): The method of claim 1 wherein the step of measuring the momentum rate of the fluid stream comprises the step of flowing the entirety of the fluid stream through a momentum device.

Claim 20 (Currently Amended): A system for determining at least one parameter of a fluid stream for subterranean treatment operations, the fluid stream having a volumetric flow rate and a momentum rate, comprising:

a volumetric flow device for measuring the volumetric flow rate of the fluid stream;

a momentum device for measuring the momentum rate of the fluid stream; and

a data processing device connected to the volumetric flow device and the momentum device for determining the at least one parameter;

wherein:

the fluid stream does not comprise a gas phase; and

the fluid stream comprises phases selected from the group consisting of:

at least one liquid phase; and

a solid phase and at least one liquid phase.

Claim 21 (Original): The system of claim 20 wherein the at least one parameter is selected from the group consisting of mass flow rate and density.

Claim 22 (Original): The system of claim 20 wherein the volumetric flow device comprises a turbine flow meter, a magnetic flow meter, or a positive displacement metering pump having a speed sensor and transmitter.

Claim 23 (Original): The system of claim 20 wherein the momentum device comprises a wedge meter, an orifice, or a venturi.

Claim 24 (Deleted).

Claim 25 (Original): The system of claim 20 wherein the data processing device comprises a computer capable of receiving multiple inputs and producing at least one output.

Claim 26 (Original): The system of claim 25 wherein the data processing device receives as input an output signal from the volumetric flow device and an output signal from the momentum device, and produces at least one output.

Claim 27 (Original): The system of claim 20 wherein:

the at least one parameter is the mass flow rate of the fluid stream;

the density of the fluid stream is known; and

the data processing device determines the at least one parameter by multiplying the density of the fluid stream by the volumetric flow rate of the fluid stream.

Claim 28 (Original): The system of claim 20 wherein:

the at least one parameter is the density of the fluid stream; and

the data processing device determines the at least one parameter by multiplying the momentum rate of the fluid stream by a numerical constant, and then dividing the product by the square of the volumetric flow rate of the fluid stream.

Claim 29-34 (Deleted).

Claim 35 (Original): The system of claim 20 wherein the momentum device is connected in fluid communication in series with the volumetric flow device.